

THE MERCHANT SHIPPING (FIRE APPLIANCES) RULES, 1940, DATED DECEMBER 23, 1940, MADE BY THE MINISTER OF SHIPPING UNDER SECTION 427 OF THE MERCHANT SHIPPING ACT, 1894 (57 & 58 VICT. C. 60), AND SECTION 5 OF THE MERCHANT SHIPPING (SAFETY AND LOADLINE CONVENTIONS) ACT, 1932 (22 & 23 GEO. 5. C. 9).

The Minister of Shipping in exercise of the powers conferred upon the Board of Trade by Section 427 of the Merchant Shipping Act, 1894, and Section 5 of the Merchant Shipping (Safety and Loadline Conventions) Act, 1932, and now vested in him by virtue of the Minister of Shipping (Transfer of Functions) Order, 1939^(a), and of all other powers enabling him in that behalf hereby makes the following Rules:—

INTERPRETATION.

1.—(i) These Rules are supplemental to the Merchant Shipping (Fire Appliances) Rules, 1932^(b) (hereinafter referred to as the “principal Rules”).

(ii) These Rules may be cited as the Merchant Shipping (Fire Appliances) Rules, 1940, and shall come into operation on first January, 1941.

(iii) In these Rules, unless the context otherwise requires—

“Steamship” includes any ship propelled by mechanical power, other than a motor-ship.

“Motor-ship” means a ship propelled by internal combustion engines.

“Approved” means approved by the Minister of Shipping.

(iv) The Interpretation Act, 1889 (52 & 53 Vict. c. 63), shall apply to the interpretation of these Rules as it applies to the interpretation of an Act of Parliament.

AMENDMENT OF PRINCIPAL RULES.

2.—(i) The Principal Rules shall be amended as follows:—

(a) The following paragraph shall be substituted for paragraph (4) of Rule 10:—

“(4) The pumps required by this Rule shall not all be fitted in the same space.”

(a) S.R. & O. 1939 (No. 1470) II. p. 3051.

(b) S.R. & O. 1932 (No. 1055) p. 97.

(b) After paragraph (5) of Rule 10 the following paragraph shall be inserted:—

“(6) Every ship of Class A shall be provided with a portable emergency power pump of an approved type with the necessary fittings; in ships of more than 4,000 tons gross tonnage or ships certified to carry more than 50 passengers at least two such pumps together with the necessary fittings shall be provided.”

(ii) After paragraph (2) of Rule 11 the following paragraph shall be inserted:—

“(3) Cocks or valves shall be fitted in such positions on the water service pipes as will ensure that any of the fire hoses can be removed while the fire pumps are at work.”

(iii) After paragraph (2) of Rule 12 the following paragraph shall be inserted:—

“(3) In addition to the normal conductor fittings there shall be provided two conductors or conductor fittings for spraying water to deal with incendiary bombs.”

(iv) The following Rule shall be substituted for Rule 14:—

“14.—Every ship of Class A shall be provided with such outfit of emergency fire appliances as the Minister of Shipping may deem sufficient, and in every case such outfit shall include at least—

(a) the provision, where electric power is available, of a portable electric drilling machine for giving emergency means of access to fires through decks, casings or bulkheads;

(b) equipment for dealing with incendiary bombs, including at least one stirrup hand pump and two buckets for every 100 feet registered length of vessel; this equipment shall be suitably distributed about the ship above the main deck;

(c) a sufficient number or quantity of metal containers filled with sand, long-handled scoops and hoes, distributed about the ship at suitable points.”

CLASSIFICATION OF SHIPS.

3. For the purposes of these Rules, ships which are not included in any of the three classes of ships specified in Rule 2 of the principal Rules and which are not fishing boats, shall be arranged in the following additional classes:—

Class D.

(i) Foreign-going steamships and foreign-going motor-ships,

(ii) Home trade steamships and home trade motor-ships of 1,000 tons gross tonnage and upwards, not being ships of Class F (in these Rules referred to as ships of Class D).

Class E.

Home trade steamships and home trade motor-ships (including auxiliary motor-ships) of less than 1,000 tons gross tonnage, not being ships of Class F (in these Rules referred to as ships of Class E).

Class F.

Whale factory ships and ships designed, equipped or used for special services which, in the opinion of the Minister of Shipping, require exceptional provision of fire appliances (in these Rules referred to as ships of Class F).

FIRE EXTINGUISHING APPLIANCES.

SHIPS OF CLASS D.

4. Every foreign-going ship of Class D of 2,000 tons gross tonnage and upwards shall be provided with apparatus whereby smothering gas sufficient to give a minimum volume of free gas equal to 30 per cent. of the gross volume of the largest hold in the ship can be promptly conveyed by a permanent piping system into any compartment in which cargo may be carried, provided that in steamships and in motor-ships which have available a boiler or boilers having an evaporation of not less than 1 lb. of steam per hour for each 12 cubic feet of the gross volume of the largest hold in the ship, steam may be provided as an alternative to gas.

5. Every ship of Class D shall be provided with:—

- (i) Apparatus whereby at least two powerful jets of water can be rapidly and simultaneously directed into any part of the ship, except in ships of less than 2,000 tons gross tonnage in which apparatus for only one powerful jet of water need be provided. Such apparatus shall include two power pumps, each capable of providing a full supply of water to the fire hoses, and two fire hoses, each complete with couplings and conductor, except in ships of less than 2,000 tons gross tonnage in which one fire hose complete with coupling and conductor only need be supplied; a spare 30 feet length of fire hose; an additional conductor or conductor fitting for each hose for spraying water to deal with incendiary bombs.

- (ii) A portable emergency power pump of an approved type with the necessary fittings; in ships of more than 4,000 tons gross tonnage at least two such pumps and the necessary fittings.
- (iii) Sufficient portable fluid fire extinguishers to ensure that at least one is available for immediate use in each space occupied by passengers, officers or crew and in any case a minimum of three such extinguishers.
- (iv) Equipment for dealing with incendiary bombs, including at least one stirrup hand pump and two buckets for every 100 feet registered length of vessel; this equipment shall be suitably distributed about the ship above the main deck; a sufficient number or quantity of "metal" containers filled with sand, long-handled scoops and hoes, distributed about the ship at suitable points.
- (v) An outfit consisting of one approved breathing apparatus or smoke helmet, a safety lamp, a fireman's hatchet and, where electric power is available, a portable electric drilling machine to provide emergency means of access to fires through decks, casings or bulkheads.

6. Every motor-ship of Class D, and every steamship of Class D in which oil only is used as fuel for main or auxiliary boilers, shall be provided in the boiler and machinery spaces with: —

- (i) A fire hose, complete with couplings and conductor, together with an additional conductor for attachment to the fire hose for spraying water on oil without undue disturbance on the surface.
- (ii) A receptacle containing at least 10 cubic feet of sand, sawdust impregnated with soda, or other suitable dry material in each firing space, and scoops for distributing such material.
- (iii) In each boiler room, and in each machinery space in which a part of the boiler oil fuel installation is situated, two approved portable extinguishers of a type discharging froth or other approved medium suitable for quenching oil fires at each firing space.
- (iv) For each firing space in any boiler room or machinery space in which there is more than one boiler, in addition to the extinguishers required by clause (iii), an extinguisher or extinguishers, also of a type discharging froth or other approved medium suitable for quenching oil fires, with a total capacity, if extinguishers discharging froth are supplied, of 2 gallons for each burner, provided that the total capacity of

the additional extinguisher or extinguishers so supplied for each such firing space need not exceed 10 gallons.

- (v) Means for admission and distribution of froth rapidly over the whole area of the boiler room to a depth of 6 inches or smothering gas or steam in sufficient quantity in the boiler space or spaces with control from an easily accessible position or positions which will not be readily cut off by an outbreak of fire.

7. Every steamship of Class D in which oil and coal are used simultaneously as fuel for the main or auxiliary boilers shall be provided in the boiler and machinery spaces with:—

- (i) Appliances in accordance with paragraphs (i), (ii), and (iii) of Rule 6 hereof.

- (ii) If the tank top is effectually subdivided by vertical longitudinal and transverse plates at each boiler to prevent spread of oil, and does not exceed 1,000 square feet in total area, one approved 30 gallon extinguisher discharging froth (or its equivalent if other approved medium is used), fitted with hose for distributing the medium: if the area of the tank top exceeds 1,000 square feet, two such extinguishers so fitted. In each case means shall be provided for the admission of steam to the boiler room.

If the tank top is not subdivided, there shall be provided in substitution for steam, means for admission and distribution of froth rapidly over the whole area of the boiler room to a depth of 6 inches or smothering gas in sufficient quantity in the boiler space or spaces with control from an easily accessible position or positions which will not be readily cut off by an outbreak of fire.

8. Every motor-ship of Class D shall be provided in the machinery spaces with at least two approved portable extinguishers of a type discharging froth or other approved medium suitable for quenching oil fires; if the engines of such ship are of power exceeding 500 B.H.P. but not exceeding 1,000 B.H.P. one additional extinguisher of the same type and of capacity at least equivalent to a 2-gallon froth extinguisher shall be provided, and an additional extinguisher of the same type and capacity shall be provided for each further 1,000 B.H.P. up to a maximum number of six extinguishers. The foregoing shall be additional to the extinguishers provided in compliance with paragraphs (iii) and (iv) of Rule 6 hereof.

SHIPS OF CLASS E.

9.—(1) Every ship of Class E of 500 tons gross tonnage and upwards, shall be provided with:—

- (i) Apparatus including one power pump and one fire hose complete with couplings and conductor, whereby a

powerful jet of water can be readily directed into any part of the ship; a spare 30 feet length of fire hose.

- (ii) Three fluid fire extinguishers to be readily accessible for use in spaces occupied by passengers, officers or crew.
- (iii) Equipment for dealing with incendiary bombs consisting of at least two stirrup hand pumps and four buckets distributed at forward and after positions above the main deck, a metal container filled with sand, a long-handled scoop and a hoe.
- (iv) A safety lamp and a fireman's hatchet.

(2) In addition to the foregoing provision every motor-ship and every steamship in which oil only is used for main or auxiliary boilers and every ship in which oil and coal is used simultaneously as fuel for boilers shall comply with the appropriate requirements of Rules 6, 7 or 8 hereof.

10. Every steamship of Class E of 150 tons gross tonnage and upwards, but of less than 500 tons gross tonnage, shall be provided with:—

- (i) Apparatus including one power pump, with fire hose, complete with couplings and conductor, whereby a powerful jet of water can be directed into any part of the ship.
- (ii) Four fire buckets and a fireman's hatchet.
- (iii) Equipment for dealing with incendiary bombs consisting of at least two stirrup hand pumps and four buckets distributed at forward and after positions above the main deck, a metal container filled with sand, a long-handled scoop and a hoe.

11. Every steamship of Class E of less than 150 tons gross tonnage shall be provided with:—

- (i) Apparatus including one power pump with hose whereby a powerful jet of water can be directed into any part of the ship.
- (ii) Three fire buckets and a fireman's hatchet.

12. Every motor-ship of Class E of 150 tons gross tonnage and upwards, but of less than 500 tons gross tonnage, shall be provided with:—

- (i) Apparatus including one fixed pump which need not be a power pump, with fire hose, complete with couplings and conductor, whereby a sufficient jet of water can be directed into any part of the ship.
- (ii) Four fire buckets and a fireman's hatchet.

- (iii) Two approved portable fire extinguishers suitable for extinguishing oil fires.
- (iv) A suitable quantity of sand, sawdust impregnated with soda or other approved dry material and a scoop, placed in a readily accessible position in the engine room.
- (v) Equipment for dealing with incendiary bombs consisting of at least two stirrup hand pumps and four buckets distributed at forward and after positions above the main deck, a metal container filled with sand, a long-handled scoop and a hoe.

13. Every motor-ship of Class E of less than 150 tons gross tonnage shall be provided with:—

- (i) Apparatus whereby a sufficient jet of water can be directed into any part of the ship.
- (ii) One pump which need not be a power pump, with hose; or two fire buckets with lanyards.
- (iii) Two fire buckets and a fireman's hatchet.
- (iv) Two approved portable fire extinguishers suitable for oil fires.
- (v) A suitable quantity of sand, sawdust impregnated with soda or other approved dry material and a scoop placed in a readily accessible position in the engine room.

SHIPS OF CLASS F.

14. The owner or other person responsible for the management of every ship of Class F shall submit to the Minister of Shipping or to a surveyor of ships or other person acting on behalf of the Minister, a scheme for the provision of fire extinguishing appliances to be carried in the ship and the method of their employment together with plans of the ship, and shall thereafter provide and employ in that ship fire extinguishing appliances in accordance with the approved scheme.

GENERAL.

The following Rules numbered 15 to 24 inclusive, shall apply generally in relation to the provision and employment of the fire extinguishing appliances required, in pursuance of the principal Rules or these Rules, to be carried in a ship of any class.

15. *Ready availability of apparatus.*

All fire extinguishing apparatus and appliances shall be in working order and ready for immediate use when the ship leaves port and at all times during every voyage. Where pumps are electrically operated, the necessary power shall always be available.

16. *Pumps.*

- (i) Fire pumps shall be ready for immediate use at all times when the vessel is in service or about to be put into service.
- (ii) Power pumps shall be independent of the main engines and each shall be capable of delivering the requisite number of jets of water in any part of the ship. Each power fire pump shall be provided with an effective escape valve suitably placed to prevent excessive pressure in any part of the fire main system.
- (iii) Portable emergency power pumps shall be of an approved type. Where such a pump is driven by a petrol motor it shall be fitted with a fuel tank of sufficient capacity to provide for not less than one hour's running. Each pump shall be self-priming, shall be furnished with suction and discharge hoses and conductor and conductor fittings for spraying water to deal with incendiary bombs and shall be capable of drawing water directly from the sea when operated from any part of a ship's deck which does not impose a lift of more than 20 feet. The apparatus shall be stowed in reasonably safe places outside the machinery space and if more than one such pump is required they shall be stowed in separate places.
- (iv) Fire pumps not required to comply with clauses (ii) and (iii) may be of the manual type.
- (v) Stirrup hand pumps shall be of approved types and each pump shall have 25 feet of hose fitted with a dual nozzle which can deliver either a 30 feet distant jet or a fine spray carrying about 15 feet. They shall be kept at suitable points above deck, and as necessary below deck near such parts of the ship as could be easily penetrated by incendiary bombs.

17. *Water service pipes.*

- (i) Water service pipes shall be made of wrought material and if of iron or steel shall be galvanised.
- (ii) The diameter of such pipes shall be sufficient to enable adequate water to be supplied to the fire hose, or to both fire hoses when two are required to be provided for simultaneous operation.
- (iii) The pipes and hydrants shall be so placed that the fire hoses may be easily coupled to them. In vessels where deck cargo may be carried the positions of the hydrants shall be such that they are always readily accessible, and the pipes shall be arranged as far as practicable to avoid risk of damage by such cargo.

- (iv) Cocks or valves shall be fitted in such positions on the pipes that any of the fire hoses may be removed while the fire pumps are at work.

18. *Fire hoses.*

- (i) Fire hoses shall be of leather, seamless hemp, flax canvas of first-class quality or other approved material and sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. They shall be provided, where necessary, with suitable metal unions and goose-neck connections.
- (ii) Hoses specified in the Rules as " fire hose complete with couplings and conductor ", coupling wrenches and goose-neck connections, shall be kept ready for use in conspicuous positions near the water-service hydrants or connections. Such fire hoses shall be used only for the purpose of extinguishing fires or testing the fire extinguishing apparatus at fire drills and surveys. Where hoses are not specified as " fire hose " they shall always be available, but may be used also for other purposes.
- (iii) Fire hose couplings shall comply with British Standard Specification No. 336 or other approved specification.

19. *Fire buckets.*

Where fire buckets are specified they shall be of about 2 gallons capacity and shall be reserved for the purpose of fire extinguishing. Such buckets shall be painted red and marked " FIRE " and be kept ready for use in readily accessible positions. At least half the number of fire buckets required to be provided shall be fitted with lanyards.

20. *Portable Fire Extinguishers.*

- (i) Portable fire extinguishers, except when of approved types supplied as an alternative to extinguishers discharging froth for use on oil fires as required by paragraph (iii) of Rule 6, shall be of an approved fluid type. The capacity of the extinguishers shall be not more than three imperial gallons and shall be not less than two gallons.
- (ii) The portable fire extinguishers provided (other than those supplied in boiler rooms, etc., specially for use in connection with oil fuel fires), shall not be of more than two types.
- (iii) A spare charge shall be provided for each portable fire extinguisher.
- (iv) After use of types of extinguishers in which the extinguishing medium is carbon tetrachloride, methyl

bromide or other toxic medium all spaces in which such mediums have been employed shall be sufficiently ventilated before being entered. Extinguishers in which the medium is stored under pressure shall not be provided for use in spaces occupied by passengers or crew.

- (v) Fire extinguishers shall be tested at intervals not exceeding four years. Fluid extinguishers under inspection shall be emptied of their contents and examined, and a trial of one shall be made. Fluid extinguishers discharging froth shall be kept in as cool a place as possible.
- (vi) Fire extinguishers shall where possible be stowed near the entrance to the space in which they are intended to be used. In small motor-ships, one of the extinguishers required shall where possible be stowed near the entrance to the motor space.

21. *Smothering Gas or Steam for Cargo Spaces and Boiler Rooms.*

- (i) Where provision is made for the injection of gas or steam into the cargo spaces or boiler rooms for fire extinguishing purposes, the necessary pipes for conveying the gas or steam shall be provided with controlling valves or cocks which shall be readily accessible from the deck in any circumstances and so marked as to indicate clearly the compartments to which the pipes are respectively led. Suitable provision shall be made for locking these valves or cocks so as to prevent inadvertent admission of the gas or steam to any compartment. If any pipe is led to a space to which passengers may have access, it shall be furnished with an additional stop valve or cock also capable of being locked.
- (ii) Piping shall be arranged so as to provide effective distribution of the smothering gas or steam and in large holds where steam is used there shall be two pipes, one at the forward part and one at the after part, led well down in the space.

In tankers the arrangements for steaming out cargo tanks shall provide for steam being distributed over the surface of the contents of the tanks.

- (iii) When carbon dioxide is supplied as the extinguishing medium in holds the quantity of gas available shall be sufficient to give a minimum volume of free gas equal to 30 per cent. of the gross volume of the largest hold in the ship.

When carbon dioxide is supplied as an extinguishing medium for boiler rooms the weight of gas carried

shall be sufficient to give a gas saturation of 25 per cent. of the gross volume of the largest boiler room measured to the top of the boilers.

- (iv) When steam is the extinguishing medium in holds, the boiler or boilers available for supplying steam shall have an evaporation of 1 lb. of steam per hour for each 12 cubic feet of the cubic capacity of the largest cargo compartment in the ship.
- (v) Means shall be provided for closing all doorways, ventilators and other openings to spaces in which smothering gas or steam can be used as a fire extinguishing medium.

22. *Breathing apparatus, Smoke Helmets and Safety Lamps.*

- (i) A breathing apparatus or smoke helmet shall be of an approved type and shall be equipped with a life and signalling line at least 10 feet longer than the total length of air hose required under paragraph (ii) of this Rule. The life line shall be efficiently attached to a strong leather or canvas harness to be worn by the wearer of the helmet when the latter is in use and shall be made of hemp-covered wire rope of about 1½ inches circumference. The wire incorporated in the rope shall have a breaking strength of approximately one ton and shall be either galvanised steel or copper.
- (ii) Where smoke helmets or masks fitted for air hoses are provided the length of air hose supplied shall be sufficient to enable the wearer to go into any part of the holds or machinery spaces from a position on the open deck well clear of hatch or doorway, so as to avoid smoke being supplied to the wearer.
- (iii) The safety lamp provided shall be of a type approved by the Mines Department for use in mines and shall have a minimum burning period of three hours. Where any ship, being a tanker (that is to say, a ship constructed for the carriage of liquid cargoes in bulk) is required by these Rules to carry a safety lamp, such lamp shall be of the electric battery type.

23. *Alternative Appliances.*

Where any special appliance, apparatus, extinguishing medium or arrangement is referred to in these Rules, the Minister of Shipping may approve any alternative apparatus, appliance, medium or arrangement if he is satisfied that it is not less effective than that prescribed in these Rules.

24. *Fire Drill.*

A fire drill for exercising the crew in the use of the fire extinguishing appliances shall be held at least once a week

while the ship is in service, and one such drill shall be held before the ship leaves her port of departure or before reaching the open sea on proceeding from such port.

The Master may dispense with the weekly drill while the ship is in convoy, and with the drill before the ship leaves her port of departure or before reaching the open sea on proceeding from such port, if in either case he is reasonably satisfied that the whole crew has received by means of previous drills held in that ship, proper training in the use of the fire appliances.

At each fire drill, a responsible officer shall examine all fire appliances to ensure that they are in good working order and readily available for use.

A record shall be entered in the ship's official log book of each drill and inspection.

25. Removal of inflammable material.

Readily inflammable material, not being cargo, essential ships' stores or equipment shall, where reasonably possible, be removed from all ships.

26. Exemptions.

The Minister of Shipping or any Surveyor of ships or other person duly authorised in that behalf by the Minister of Shipping, may exempt subject to such conditions as he thinks fit to impose, any ship, for the period of any voyage or voyages, from compliance with any requirement of these Rules, if he is satisfied that the requirement is either impracticable or unreasonable having regard to all the circumstances of the case.

Given under the official seal of the Minister of Shipping this twenty-third day of December, 1940.

(L.S.)

E. J. Foley,

Secretary of the Ministry of Shipping.

LONDON

PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:

York House, Kingsway, London. W.C.2; 120 George Street, Edinburgh 2;
39-41 King Street, Manchester 2; 1 St. Andrew's Crescent, Cardiff;
80 Chichester Street, Belfast,
or through any bookseller

1942

Price 3d. net.